

CLAIMS:

1. An article having a coating on at least a portion of a surface thereof, said coating comprising at least two layers, wherein at least one first layer comprises at least one microorganism which produces at least one amylolytic or proteolytic enzyme, and wherein at least one second layer, different from said first layer, contains at least one ingredient selected from a microorganism that produces at least one amylolytic or proteolytic enzyme, an amylolytic or proteolytic enzyme, and a nutrient for said microorganism of the at least one first layer.
2. The article of claim 1, wherein the at least one second layer comprises at least one amylolytic or proteolytic enzyme.
3. The article of claim 2, wherein the enzyme in said second layer is different than the enzyme produced by the microorganism.
4. The article of claim 2, wherein the enzyme in said second layer is the same as the enzyme produced by the microorganism.
5. The article of claim 1, wherein the at least one second layer comprises a microorganism that produces at least one amylolytic or proteolytic enzyme.
6. The article of claim 5, wherein the at least one second layer does not include a binder.
7. The article of claim 5, wherein the microorganisms in the first and second layers are the same.

8. The article of claim 7, wherein the microorganism produces at least one enzyme which retards unwanted growth on the surface.
9. The article of claim 1, wherein at least one second layer comprises at least one nutrient for said microorganism of the at least one first layer.
10. The article of claim 9, wherein substantially all of the nutrient for the microorganism is in the at least one second layer.
11. The article of claim 1, wherein the at least one second layer is between the surface of the article and the at least one first layer.
12. The article of claim 1, wherein the at least one first layer further comprises at least one amylolytic or proteolytic enzyme.
13. The article of claim 1, wherein at least one layer includes an inorganic salt.
14. The article of claim 1, wherein at least one layer includes a surfactant.
15. The article of claim 1, wherein at least one layer includes an acrylic binder.
16. The article of claim 1 having a marine surface.
17. The article of claim 1, wherein at least one layer contains vegetative cells absorbed to calcium carbonate, clay, talc, or aluminum stearate.
18. The article of claim 1, wherein at least one layer contains enzymes absorbed to calcium carbonate, clay, talc, or aluminum stearate.
19. The article of claim 1 in a marine environment, a blood system, or exposed to air.

20. An article having a coating on at least a portion of the surface thereof, said coating comprising at least two layers, wherein at least one first layer comprises at least one microorganism which produces at least one amylolytic or proteolytic enzyme, and at least one second layer containing a nutrient for said microorganism.
21. The article of claim 20, wherein at least one layer contains at least one amylolytic or proteolytic enzyme.
22. The article of claim 20, wherein at least one layer contains a binder.
23. The article of claim 22, wherein the binder is an acrylic binder.
24. The article of claim 20, wherein the at least one second layer is between the article and said first layer.
25. The article of claim 20 having a third layer, wherein the first and second layers are between the surface of the article and the third layer.
26. A method of reducing growth of organisms on a surface comprising: applying a coating having at least two layers on at least a portion of the surface, wherein at least one first layer comprises at least one microorganism which produces at least one amylolytic or proteolytic enzyme, and applying at least one second layer, different from said first layer, said second layer containing at least one ingredient selected from a microorganism that produces at least one amylolytic or proteolytic enzyme, an amylolytic or proteolytic enzyme, and a nutrient for said microorganism of the at least one first layer.
27. The method of claim 26 wherein at least one layer contains a binder.

28. A method for protecting a surface comprising coating the surface with a first composition comprising at least one nutrient for at least one microorganism that produces at least one amylolytic or proteolytic enzyme to form a first layer on the surface, and coating the first layer with a second composition comprising the said at least one microorganism.
29. The method of claim 28 wherein at least one of said first or second compositions contains a binder.
30. The method of claim 28 wherein both said first and second compositions contain a binder.